

WHAT IS CLAIMED:

1. A customizable implant configured for placement between joint surfaces formed by inserting a hollow device having an aperture and a lumen into a target joint, and injecting material into the hollow device to form an implant.

2. A customizable implant configured for placement between joint surfaces formed by inserting a retaining device that engages at least a portion of one joint surface in a joint and injecting material into an aperture of the retaining device to form an implant.

3. The implant of claims 1 or 2 wherein the implant is removed from the joint after the material is injected.

4. The implant of claims 1 or 2 wherein the implant is processed after the material is injected.

5. The implant of claim 3 wherein the implant is installed between the joint surfaces.

6. The implants of claim 1 or 2 wherein the implant is formed outside the joint.

7. The implants of claims 1 or 2 wherein the implant is formed inside the joint.

8. The implants of claim 1 or 2 wherein the implant is fixed within the joint.

9. The implants of claim 1 or 2 wherein the fit of the implant is tested in situ.

10. The implant of claim 1 wherein a second hollow device having an aperture and a lumen is inserted into the first hollow device.

11. The implant of claim 1 wherein a second hollow device having an aperture and a lumen is inserted into the joint adjacent the first hollow device.

12. The implant of claims 10 or 11 wherein a third hollow device is inserted into the joint wherein the third hollow device communicates with at least one of the first hollow device and second hollow device.

13. The implant of claim 10 wherein the hollow device has a lumen of variable thickness.

14. The implant of claim 10 wherein the hollow device has a lumen of variable stiffness.

15. The implant of claims 10 or 11 wherein the device conforms to at least one joint surface.

16. The implant of claims 10 or 11 wherein the device abuts at least one joint surface.

17. The implant of claims 10 or 11 wherein the device surrounds a defect within a joint.

18. The implant of claims 10 or 11 wherein the device extends beyond at least one perimeter of the joint.

19. The implant of claim 11 wherein the retaining device has an aperture.

20. The implant of claim 11 wherein the retaining device engages a joint surface along its perimeter and forms a cavity thereunder.

21. The implant of claim 11 wherein the joint surface is at least one of meniscal surface and subchondral bone.

5 22. The implant of claim 11 wherein the joint surface is prepared prior to injection by at least one of meniscal removal, aperture creation, and abrasion.

10 23. The implant of claims 10 or 11 wherein the injection material is selected from the group consisting of: polymer, metal, gases, and crystal free metals.

24. The implant of claims 10 or 11 wherein the joint surface is prepared to provide a cylindrical opening.

15 25. The implant of claims 24 wherein the injecting material is located within the cylindrical opening on the joint surface and forms an anchoring device.

26. A tool comprising:
a mold having a surface for engaging a joint surface;
a block that communicates with the mold; and
at least one guide aperture in the block.

20 27. The tool of claim 26 wherein the mold and the block are integrally formed.

28. The tool of claim 26 wherein the mold is formed to conform to the joint surface on at least one surface.

29. The tool of claim 26 wherein the mold has at least one aperture positioned below the at least one guide aperture in the block.

30. The tool of claim 26 wherein the mold and the block have a plurality of apertures therein.

5 31. The tool of claim 30 wherein a first aperture of a plurality of apertures is configured at an angle to a second aperture of a plurality of apertures.

32. The tool of claim 30 wherein the mold has at least one stabilizer on the surface that engages the joint surface.

10 33. The tool of claim 70 wherein the stabilizer is selected from the group consisting of pin, peg, post, and nub.

34. The tool of claim 26 wherein a surface of the mold that communicates with a surface of the block is configured to prevent at least one movement selected from the group consisting of axial, lateral and rotational.

15 35. The tool of claim 34 wherein the surface of the block that engages the mold is at least one of convex or concave.

36. The tool of claim 34 wherein the surface of the mold that engages the block is at least one of convex or concave.

20 37. The tool of claim 34 wherein the surface of at least one of the mold and block has an aperture for receiving at least one of a pin; post and peg located on a surface of the mold.

38. The tool of claim 37 wherein the aperture forms a groove providing rotational movement.

39. The tool of claim 37 wherein the mold is selected from a library of molds.

40. The tool of claim 36 wherein the mold is patient specific.

41. The tool of claim 36 wherein at least one of the mold and block has a reaming aperture.

42. The tool of claim 36 further comprising spacers.

43. The tool of claim 36 wherein block engages the mold in a snap fit.

44. The tool of claim 36 configured to be used in at least one of hip, knee, ankle, shoulder, elbow and wrist.

45. The tool of claim 36 configured to be used in a joint in the body.

46. A method of placing an implant into a joint, the method comprising the steps of imaging the joint using a C-arm system, obtaining a cross-sectional image with the C-arm system, and utilizing the image for placing the implant into a joint.

47. The method of claim 46 further comprising the step of obtaining a partial rotation with the C-arm system.

48. A tool formed at least partially in situ comprising:

a mold formed in situ using at least one of an inflatable hollow device or a retaining device to conform to the joint surface on at least one surface having a surface for engaging a joint surface;

a block that communicates with the mold; and

at least one guide aperture in the block.

49. The tool of claim 48 wherein the mold has at least one aperture positioned below the at least one guide aperture in the block.

50. The tool of claim 48 wherein the mold and the block have a plurality of guide apertures therein.

5 51. The tool of claim 50 wherein a first aperture of a plurality of guide apertures is configured at an angle to a second aperture of a plurality of guide apertures.

52. The tool of claim 50 wherein the mold has at least one stabilizer on the surface that engages the joint surface.

10 53. The tool of claim 40 wherein the stabilizer is selected from the group consisting of pin, peg, post, and nub.

54. The tool of claim 48 wherein a surface of the mold that communicates with a surface of the block is configured to prevent at least one movement selected from the group consisting of axial, lateral and rotational.

15 55. The tool of claim 54 wherein the surface of the block that engages the mold is at least one of convex or concave.

56. The tool of claim 54 wherein the surface of the mold that engages the block is at least one of convex or concave.

20 57. The tool of claim 54 wherein the surface of at least one of the mold and block has an aperture for receiving at least one of a pin, post and peg located on a surface of the mold.

58. The tool of claim 57 wherein the aperture forms a groove providing rotational movement.

59. The tool of claim 48 wherein the mold patient specific.

60. The tool of claim 48 wherein at least one of the mold and block has a reaming aperture.

61. The tool of claim 60 further comprising spacers.

5 62. The tool of claim 48 wherein block engages the mold in a snap fit.

63. The tool of claim 48 configured to be used in at least one of hip, knee, ankle, shoulder, elbow and wrist.

64. The tool of claim 48 configured to be used in a joint in the body.

10